

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A conveyor oven for cooking a food product, comprising:

a cooking tunnel comprising:

at least first and second cooking zones, each cooking zone comprising a separate and discrete cooking area within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel, at least the first ~~each~~ cooking zone comprising:

a housing defining a cooking chamber;

means for supplying microwave energy to the cooking chamber;

a conduit means for circulating gas to and from the cooking chamber;

a flow means for causing circulation of the gas;

a means for heating the gas;

a first gas directing means disposed above the food product; the first gas directing means being operably associated with the conduit means; and

a second gas directing means disposed above the food product, the second gas directing means also being operably associated with the conduit means;

wherein the first and second gas directing means are configured to cause the gas from the first gas directing means to collide with the gas from the second gas directing means upon or above the upper surface of the food product; and

means for inhibiting escape of microwave energy from the cooking tunnel,
such means comprising a moveable ingress door and a moveable egress door; and

a conveyor comprising a belt configured to (i) convey the food product from
the first cooking zone to the second cooking zone and (ii) cause the food product to
dwell for a controllable length of time in at least the first cooking zone; and

in which the ingress and egress doors are closed when microwave energy is
being supplied to the first cooking zone and at least one of the ingress or egress doors
is open when the conveyor is conveying the food product from the first cooking zone
to the second cooking zone.

2. (currently amended) A conveyor oven for cooking a food product, comprising:

a cooking tunnel, comprising:

at least first and second cooking zones, each cooking zone comprising a separate and
discrete cooking area within the cooking tunnel such that the food product moves
forward through separate cooking zones as it travels through the cooking tunnel, at
least the first each cooking zone comprising:

a housing defining a cooking chamber;

means for supplying microwave energy to the cooking chamber;

a conduit means for circulating gas to and from the cooking chamber;

a flow means for causing circulation of the gas;

a means for heating the gas;

a first gas directing means disposed below the food product; the first gas directing means being operably associated with the conduit means; and

a second gas directing means disposed below the food product, the second gas directing means also being operably associated with the conduit means;

wherein the first and second gas directing means are configured to cause the gas from the first gas directing means to collide with the gas from the second gas directing means upon or below the lower surface of the food product; and

means for inhibiting escape of microwave energy from the cooking tunnel, such means comprising a moveable ingress door and a moveable egress door; and

a conveyor comprising a belt configured to (i) convey the food product from the first cooking zone to the second cooking zone and (ii) cause the food product to dwell for a controllable length of time in at least the first cooking zone; and

in which the ingress and egress doors are closed when microwave energy is being supplied to the first cooking zone and at least one of the ingress or egress doors is open when the conveyor is conveying the food product from the first cooking zone to the second cooking zone.

3. (previously presented) The oven of claim 1 further comprising:

a first lower gas directing means disposed below the food product; the first lower gas directing means being operably associated with the conduit means; and

a second lower gas directing means disposed below the food product, the second lower gas directing means also being operably associated with the conduit means;

wherein the first and second lower gas directing means are configured to cause the gas from the first lower gas directing means to collide with the gas from the second lower gas directing means upon or below the bottom surface of the food product.

4. (previously presented) The oven of claim 1 wherein each cooking zone cooks the food product independently of the other cooking zones.

5. (previously presented) The oven of claim 1 further comprising:

a control means for controlling the gas flow.

6. (previously presented) The oven of claim 1 wherein the gas exits the cooking chamber via the top wall.

7. (previously presented) The oven of claim 1 further comprising:

at least one odor filter.

8. (previously presented) The oven of claim 1 further comprising:

a damper means for adjusting the amount of said gas delivered via said conduit means to said first, second, first lower and second lower gas directing means.

9. (previously presented) The oven of claim 1 wherein the flow means is a blower motor.

10. (original) The oven of claim 9 wherein the blower motor runs at variable speeds.

11. (previously presented) The oven of claim 1 wherein the heating means is a electric resistance heater.

12. (previously presented) The oven of claim 5 wherein the control means is a toggle switch.

13. (original) The oven of claim 12 wherein the toggle switch controls the flow means.

14. (previously presented) The oven of claim 5 wherein the control means is a rotary switch.

15. (original) The oven of claim 14 wherein the rotary switch controls the flow means.

16.-20. (cancelled)

21. (previously presented) An oven as defined in claim 1 further comprising:

an egress opening to allow the gas to exit the cooking chamber and a catalyst located within said egress opening.

22. (original) The oven of claim 21 wherein said egress opening is located in a top wall of the cooking chamber.

23. (original) The oven of claim 21 wherein said egress opening is located in a side wall of the cooking chamber.

24. (original) The oven of claim 21 wherein said egress opening is located in a back wall of the cooking chamber.

25. (original) The oven of claim 21 wherein said egress opening is located in a bottom wall of a cooking chamber.

26. (previously presented) The oven of claim 1 wherein the first gas directing means and the second gas directing means are located within a top wall.

27. (previously presented) The oven of claim 1 wherein the housing has right and left side walls and the first gas directing means and the second gas directing means are located within the right and left side walls.

28. (previously presented) The oven of claim 1 wherein the housing has side walls and a top wall intersecting therewith and the first gas directing means and the second gas directing means are located at the intersection of the side walls and the top wall.

29. (currently amended) The oven of claim 1 wherein the housing has a back wall and the first gas directing means and the second gas directing means form a portion of a back gas transfer system, and wherein the back gas transfer system is ~~are~~ located within the back wall.

30. (currently amended) The oven of claim 2 wherein the housing has a bottom wall and the first lower gas directing means and the second lower gas directing means ~~are located within~~ comprise gas discharge plates that are associated with the bottom wall.

31. (previously presented) The oven of claim 2 wherein the housing has right and left side walls and the first lower gas directing means and the second lower gas directing means are located within the right and left side walls.

32. (cancelled)

33. (previously presented) The oven of claim 2 wherein the housing has a back wall and the first lower gas directing means and the second lower gas directing means are located within the back wall.

34. (previously presented) The oven of claim 1 wherein the heating means is a heater powered by gaseous fuel.

35. (original) The oven of claim 34 wherein the gaseous fuel is propane.

36. (original) The oven of claim 34 wherein the gaseous fuel is natural gas.
37. (previously presented) The oven of any claim 1 wherein said oven is a speed cooking oven.
38. (cancelled)
39. (previously presented) The oven of claim 1 wherein said oven is an accelerated cooking oven.
40. (previously presented) The oven of claim 1 wherein said oven is a recycling oven.
41. (previously presented) The oven of claim 1 further comprising:
at least two additional gas directing means for direction on at least one further food product.
42. (previously presented) The oven of claim 1 further comprising:
an ingress door disposed at one end of the cooking tunnel;
an egress door disposed at the other end of the cooking tunnel;
a plurality of sealing means carried by the conveyor for providing a seal between the ingress door and the cooking tunnel and between the egress door and the cooking tunnel.

43. (original) The oven of claim 7 wherein the odor filter is a catalytic odor filter.
44. (previously presented) The oven of claim 1 having a bleed gas flow system further comprising: a gas bleed chamber, and an odor filter within the gas bleed chamber.
45. (original) The oven of claim 44 wherein the odor filter causes catalytic destruction of cooking by-products.
46. (original) The oven of claim 45 further comprising a pre-heater to heat the bleed gas flow prior to the gas entering the catalytic odor filter.
47. (currently amended) A conveyor oven for cooking a food product, comprising:
- a. a cooking tunnel comprising:
 - i. a housing defining therein first and second cooking zones, each cooking zone comprising a separate and discrete cooking area within the cooking tunnel such that the food product moves forward through separate cooking zones as it travels through the cooking tunnel;
 - ii. means for supplying heated gas to the first cooking zone;
 - iii. means for supplying heated gas to the second cooking zone;
 - iv. means for supplying microwave energy to the first cooking zone; and
 - v. means for supplying microwave energy to the second cooking zone; and

b. a conveyor configured to (i) convey a food product from the first cooking zone to the second cooking zone and (ii) cause the food product to dwell for a controllable length of time in at least one of the first or second cooking zones.

48. (previously presented) A conveyor oven according to claim 47 in which the cooking tunnel further comprises means for inhibiting escape of microwave energy therefrom.

49. (previously presented) A conveyor oven according to claim 48 in which the escape-inhibiting means comprises (i) a moveable ingress door and (ii) a moveable egress door.

50. (previously presented) A conveyor oven according to claim 49 in which the ingress and egress doors are closed when microwave energy is being supplied to either of the first or second cooking zones.

51. (previously presented) A conveyor oven according to claim 50 in which at least one of the ingress or egress doors is open when microwave energy is not being supplied to either of the first or second cooking zones.

52. (previously presented) A conveyor oven according to claim 51 in which at least one of the ingress or egress doors is open when the conveyor is conveying the food product from the first cooking zone to the second cooking zone.

53. (previously presented) A conveyor oven according to claim 52 in which (i) the conveyor comprises a belt having an upper surface for receiving the food product and (ii) the means for supplying heated gas to the first cooking zone is configured to direct the heated gas toward the food product at an angle other than normal to the upper surface of the belt.